PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION

International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51)	International patent classification ⁶ :		11) Internatio	nal publication number:	WO 99/58690
	C12N 15/56, 9/44, 15/82, 1/21, 5/10, A01H 5/00, 5/10, C08B 30/00	A2	43) Internatio	nal publication date:	
	110111 5/00, 5/10, 5/005 50/00		18 November 1999 (18.11.99)		er 1999 (18.11.99)
(21)) International application number: PCT/EP99/03141		(81) Designated states: AE, AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID,		
(22)	International filing date: 7 May 1999 (07.05.99)		IL, IN, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG,		
(30)	Data relating to the priority: 198 20 608.9 8 May 1998 (08.05.98)	DE	ZA, AR	SL, TJ, TM, TR, TT, UA, UIPO Patent (GH, GM, KE, IZW), Eurasian Patent (AM,	S, MW, SD, SL,
(71)	Applicant (for all designated States except US): HOECHST SCHERING AGREVO GMBH [DE/DE]; Miraustrasse 54, D-13509 Berlin (DE).		MD, RU, TJ, TM), European Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI Patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).		
1 '	Inventors; and Inventors/Applicants (US only): LÖRZ, Horst [DE/DE]; Ramckeweg 6a, D-22589 Hamburg (DE). LÜTTICKE, Stephanie [DE/DE]; Lange Reihe 22, D-20099 Hamburg (DE). ABEL, Gernot [DE/DE]; Papendamm 28, D-20146 Hamburg (DE). GENSCHEL, Ulrich [DE/DE]; Eimsbütteler Strasse 100b, D-22769 Hamburg (DE).		Published Without the International Search Report and to be republished once the report has been received.		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					

As printed

- (54) Title: NUCLEIC ACID MOLECULES WHICH CODE FOR ENZYMES DERIVED FROM WHEAT AND WHICH ARE INVOLVED IN THE SYNTHESIS OF STARCH
- (54) Bezeichnung: NUCLEINSÄUREMOLEKÜLE CODIEREND ENZYME AUS WEIZEN, DIE AN DER STÄRKESYNTHESE BETEILIGT SIND

(57) Abstract

The invention relates to nucleic acid molecules which code for enzymes and which are involved in the synthesis of starch in plants. These enzymes concern isoamylases derived from wheat. The invention also relates to vectors and host cells which contain the described nucleic acid molecules, especially transformed plant cells and plants which can be regenerated therefrom, which exhibit an increased or reduced activity of the inventive isoamylases.

(57) Zusammenfassung

Es werden Nucleinsäuremolektile beschrieben, die Enzyme codieren, die an der Stärkesynthese in Pfianzen beteiligt sind. Bei diesen Enzymen handelt es sich um Isoamylasen aus Weizen. Weiterhin betrifft die Erfindung Vektoren und Wirtszellen, die die beschriebenen Nucleinsäuremolektile enthalten, insbesondere transformierte Pflanzenzellen und aus diesen regenierbare Pflanzen, die eine gesteigerte oder verringerte Aktivität der erfindungsgemäßen Isoamylasen aufweisen.